

WHAT IS CLAIMED IS:

1. A substrate for a microelectronic circuit, comprising:
  - at least one dielectric layer;
  - a circuit material layer formed on a surface of a first one of the at least one dielectric layer the circuit material pattern forming a pattern of connection attachment terminals, and wherein the dielectric is laser-ablated to form holes through the dielectric layer to expose the connection attachment terminals.
2. The substrate of Claim 1, wherein at least one dielectric layer comprises a second dielectric layer for covering the circuit material pattern, and wherein the laser-ablated holes are formed through the second dielectric layer.
3. The substrate of Claim 2, wherein the connection attachment terminals comprise wire bond lands.
4. The substrate of Claim 2, wherein the connection attachment terminals comprise solder ball attachment lands.
5. The substrate of Claim 2, wherein the second dielectric layer is a conformal coating layer.

6. The substrate of Claim 1, wherein the at least one dielectric layer comprises only one dielectric layer, and wherein the dielectric layer is ablated from a surface parallel to and opposing the surface having the circuit material pattern, whereby a back-side access to the solder ball attachment terminals is provided.

7. The substrate of Claim 6, wherein the connection attachment terminals comprise solder ball attachment lands.

8. The substrate of Claim 6, wherein the circuit material pattern is plated with an Nickel-Gold plating, and wherein the solder ball attachment terminals are not plated with the plating.

9. The substrate of Claim 8, wherein the dielectric is pre-punched only at the edges of the substrate to provide for sprocket handling of the substrate without exposing the back side of the circuit material pattern, whereby plating of the back side of the circuit material pattern is prevented.

10. The substrate of Claim 8, further comprising an organic solderable protectant layer applied to the laser-exposed unplated solder ball attachment terminals, whereby migration of plating into solder balls is prevented.

11. The substrate of Claim 6, wherein the dielectric layer is a dielectric film layer.

12. A substrate for a microelectronic circuit, comprising:  
at least one dielectric layer;  
a circuit material layer formed on a surface of a first one of the at least one dielectric layer the circuit material pattern forming a pattern of connection attachment terminals; and wherein the dielectric layer includes means for exposing the connection attachment terminals.

13. The substrate of Claim 12, wherein the means for exposing the connection attachment terminals further comprises means for preventing plating of the connection attachment terminals.

14. The substrate of Claim 12, wherein the means for exposing the connection attachment terminals further comprises means for providing a solder ball interface to the connection attachment terminals absent a diffusion of gold from the connection attachment terminals.

15. The substrate of Claim 12, wherein the means for exposing the connection attachment terminals further comprises means for providing access to a back-side of the circuit material layer.

16. A method for manufacturing an integrated circuit substrate, comprising:

forming a conductive circuit pattern on a first side of a dielectric layer, wherein the conductive circuit pattern includes a plurality of connection attachment terminals; and  
laser-drilling a plurality of perforations from one side of the dielectric layer through to the conductive circuit pattern to expose the connection attachment terminals.

17. The method of Claim 16, wherein the laser-drilling drills the perforations through a second side of the dielectric layer to expose a bottom side of the conductive circuit pattern.

18. The method of Claim 17, further comprising prior to the laser-drilling, dip plating the integrated circuit substrate, to plate the exposed conductive circuit pattern, whereby the terminals exposed by the laser drilling remain unplated.

19. The method of Claim 18, further comprising applying an organic solderable protectant to the exposed terminals.

20. The method of Claim 16, further comprising:

applying a conformal coating over the conductive circuit pattern; and

curing the conformal coating, and wherein the laser-drilling exposes the connection attachment terminals after the curing.